Zizhe Zhang

email: zizhe@cs.jhu.edu
website | github | linkedin | scholar

EDUCATION

Johns Hopkins University, *Whiting School of Engineering* — *Baltimore, MD*
Doctor of Philosophy (Ph.D.), Computer Science — Aug 2026 – 2030 (expected)
Advisor: Prof. Haimin Hu

University of Pennsylvania, *GRASP Lab* — *Philadelphia, PA*
Master of Science in Engineering (M.S.E), Robotics — Aug 2024 – May 2026
Advisor: Prof. Nadia Figueroa

University of California San Diego, *Jacobs School of Engineering* — *San Diego, CA*
Visiting Student — Jan 2023 – Mar 2023

Southeast University, *School of Instrument Science and Engineering* — *Nanjing, China*
Bachelor of Engineering (B.E.) in Measuring Control Technology & Instruments — Aug 2020 – Jun 2024
Advisor: Prof. Yuan Yang

HONORS AND AWARDS

Best Contribution Award, IROS Workshop on *Exploring the Role of Energy in Robot Learning and Control* 2025
Best Student Paper Award, IROS Workshop on *Building Safe Robots* 2025
GAPSA Individual Grant, University of Pennsylvania 2025
IROS-SDC Travel Award, IROS 2025 2025
Outstanding Bachelor's Thesis, Southeast University 2024
Merit Student Award, Southeast University 2021

PUBLICATIONS

(* and † denote equal contribution)

Peer-Reviewed Conference Articles

C3. Viability-Preserving Passive Torque Control
Zizhe Zhang*, Yicong Wang*, Zhiquan Zhang, Tianyu Li, and Nadia Figueroa
IEEE International Conference on Robotics & Automation (ICRA), 2026 [arXiv] [code] [website]
*IROS Workshop on Building Safe Robots (**Best Student Paper Award**)*, 2025
*IROS Workshop on Exploring the Role of Energy in Robot Learning and Control (**Best Contribution Award**)*, 2025

C2. Flow with the Force Field: Learning 3D Compliant Flow Matching Policies from Force and Demonstration-Guided Simulation Data
Tianyu Li*, Yihan Li*, **Zizhe Zhang**, and Nadia Figueroa
IEEE International Conference on Robotics & Automation (ICRA), 2026 [arXiv] [website]
IROS Workshop on Exploring the Role of Energy in Robot Learning and Control, 2025
IROS Workshop on Contact and Impact-aware Manipulation, 2025

C1. VLMgineer: Vision Language Models as Robotic Toolsmiths
George Jiayuan Gao*, Tianyu Li*, Junyao Shi, Yihan Li†, **Zizhe Zhang†**, Nadia Figueroa, and Dinesh Jayaraman
International Conference on Learning Representations (ICLR), 2026 [arXiv] [Code] [website]
*Robotics: Science and Systems (RSS) Workshop on Robot Hardware-Aware Intelligence (**Oral Spotlight**)*, 2025

Peer-Reviewed Journal Articles

J1. Image-Based Visual Servoing for Enhanced Cooperation of Dual-Arm Manipulation
Zizhe Zhang, Yuan Yang, Wenqiang Zuo, Guangming Song, Aiguo Song, and Yang Shi
IEEE Robotics and Automation Letters (RA-L), 2025 [arXiv] [website]

RESEARCH EXPERIENCE

Johns Hopkins University — *Baltimore, MD*
Graduate Research Assistant — Aug 2026 – Present
Alliance AI Lab, advised by Prof. Haimin Hu

University of Pennsylvania — *Philadelphia, PA*
Research Engineer — Jun 2026 – Aug 2026
Graduate Research Assistant — Nov 2024 – May 2026
Figueroa Robotics Lab, advised by Prof. Nadia Figueroa

Duke University — *Durham, NC*
Visiting Scholar — Jun 2025 – Aug 2025
Robot Dexterity Lab, hosted by Prof. Xianyi Cheng

Southeast University — *Nanjing, China*
Undergraduate Research Assistant — Dec 2023 – Aug 2024
Robotic Perception and Control Lab, advised by Prof. Yuan Yang

Undergraduate Research Assistant — Mar 2022 – Jun 2023
Automotive Safety Technology Lab, advised by Prof. Dong Wang

Undergraduate Research Assistant — Jul 2021 – Sep 2021
Advanced Navigation Technology Lab, advised by Prof. Xuanpeng Li

TEACHING EXPERIENCE

University of Pennsylvania — *Philadelphia, PA*
Teaching Assistant — Fall 2025
ESE 5000 Linear Systems Theory — Instructor: Prof. George Pappas

SERVICE

Program Committee
NeurIPS Workshop on Physical World AI — 2026

Reviewer
IEEE Robotics and Automation Letters (RA-L)
IEEE Transactions on Robotics (TRO)
IEEE Transactions on Industrial Electronics (TIE)
IEEE Transactions on Industrial Informatics (TII)
IEEE/CAA Journal of Automatica Sinica (JAS)
Machine Intelligence Research (MIR)
IEEE International Conference on Robotics and Automation (ICRA) — 2026, 2027
Robotics: Science and Systems (RSS) — 2027

Volunteer
Robotics: Science and Systems (RSS) — 2025

Professional Memberships

Robot Learning Foundation Member — 2026 – Present
IEEE Robotics and Automation Society Member — 2024 – Present
IEEE Member — 2024 – Present

SKILLS

Programming C, C++, Python, MATLAB
Tools CMake, PyTorch, ROS, RLBench, ManiSkill, CoppeliaSim, PyBullet, Isaac Gym/Sim/Lab, MuJoCo
Robots UR3, UR3e, Franka Emika Panda, Franka Research 3, Flexiv Enlight, Unitree G1, TidyBot